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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,030	09/24/2003	Zining Wu	MP0309	2654
23624	7590	06/29/2005	EXAMINER	
MARVELL SEMICONDUCTOR, INC. INTELLECTUAL PROPERTY DEPARTMENT 700 FIRST AVENUE, MS# 509 SUNNYVALE, CA 94089			OLSON, JASON C	
		ART UNIT		PAPER NUMBER
				2651

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/671,030	WU ET AL.
	Examiner Jason C. Olson	Art Unit 2651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 04 March 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-68 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-4, 9-12, 17-20, 25-28, 33-36, 41-44, 49-52, 57-62, 67 and 68 is/are rejected.
- 7) Claim(s) 5-8, 13-16, 21-24, 29-32, 37-40, 45-48, 53-56 and 63-66 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 24 September 2003 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/24/03</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claim Objections

Claims 7, 8, 15, 16, 23, 24, 31, 32, 39, 40, 47, 78, 55, 56, 65, and 66 are objected to because of the following informalities: The variable “n” is not precisely defined. The examiner suggests that the applicant further define “n” as an integer. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 9-12, 17-20, 25-28, 33-36, 41-44, 49-52, 57-62, 67, and 68 rejected under 35 U.S.C. 102(b) as being anticipated by Good et al. (US 5,377,058), Good hereafter.

Regarding claim 1, Good teaches a storage medium (see col. 3, ln. 41); a head (see col. 3, ln. 34-35); a pulse circuit adapted to generate a pulse in response to a transition of the head over a predetermined pattern on the storage medium (see col. 7, ln. 55-62; the Harmonic Ratio Fly Height detector (HRF) is a pulse circuit that generates a pulse (or signal) in response to a predetermined pattern (or synchronization field)); a measurement circuit (see figure 5) adapted to determine a first amplitude of the pulse at a first predetermined time (see figure 5, items 46 and Y1(J)) and one or more second amplitudes of the pulse (see figure 5, items 52 and Y3(J)) at respective second predetermined times (see col. 8, ln. 1-6; it is interpreted by the examiner that

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the first predetermined time and the second predetermined times are the same in this instant.

However, Good discloses in column 3, line 60-67 and column 4, line 28-33 a flight height servo loop for read/write or track following modes in which the predetermined pattern, synchronization field, will be provide a first amplitude and a second or more amplitudes at a first predetermined time and second predetermined times, respectively); a calculation circuit adapted to provide a signal representing a distance between the head and the storage medium based on a function of the first and second amplitudes (see col. 8, ln. 7-16 and figure 5, items 54 and HRF (J)); and a head controller adapted to control the distance between the head and the storage medium based on the signal provided by the calculation circuit (see col. 3, ln. 60-67 and col. 5, ln 2-19).

Regarding claims 2-4, Good teaches the function of the first and second amplitude is a ratio or a logarithm of a ratio of the first and second amplitude or sum of second amplitudes, where the second amplitudes consist of only one amplitude (see col. 8, ln. 7-8, logarithmic ratio circuit).

Regarding claims 9-12, 17-20, 25-28, 33-36, and 41-44: Claims 9-12, 17-20, 25-28, 33-36, and 41-44 have limitations similar to those treated in the above rejection(s), and are met by the references as discussed above.

Regarding claims 49-52 and 58-57: method claims 49-52 and 58-57 are drawn to the method of using the corresponding apparatus claimed in claims 1-4, 9-12, and 17-20. Therefore method claims 49-52 and 58-57 correspond to apparatus claims 1-4, 9-12, and 17-20 and are rejected for the same reasons of anticipation as used above.

Regarding claims 59-62 and 67-68: computer program claims 59-62 and 67-68 are drawn to the computer program of the corresponding apparatus claimed in claims 1-4, 9-12, and 17-

20. Therefore computer program claims 59-62 and 67-68 correspond to apparatus claims 1-4, 9-12, and 17-20 and are rejected for the same reasons of anticipation as used above.

Allowable Subject Matter

Claims 5-8, 13-16, 21-24, 29-32, 37-40, 45-48, 53-56, and 63-66 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Carlson et al. (US 5,909,330) is cited for detecting read flying height in a disk drive. Kim (US 6,094,318) is cited for controlling data write operation according to flying height of transducer head. Dakroub et al. (US 6,898,034) is cited for fly height measurement for a disc drive. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason C. Olson whose telephone number is (571)272-7560. The examiner can normally be reached on Monday thru Thursday 7:30-5:30; alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Hudspeth can be reached on (571)272-7843. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCO

June 21, 2005



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